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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/458,605	12/10/1999	KOJI URASAWA	9976-007-(BO	9071

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EXAMINER

TRAN, DOUGLAS Q

ART UNIT	PAPER NUMBER
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2624

DATE MAILED: 02/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/458,605

Applicant(s)

URASAWA, KOJI

Examiner

Douglas Q. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☒ Claim(s) 7-10 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 December 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other: ____

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Blair (US Patent No. 6,018,400) and Kawata et al. (US Patent No. 6,219,149 B1).

As to claim 1, Blair teaches a printing data processor (i.e., the CPU, 18 in fig. 1, for controlling overall printing operation of a printer 10 "col. 3, lines 49-50") comprising:

an editing process part (i.e., a page processor "20 in fig. 1" would be considered as an editing process part) for receiving printing data in the form of a page description language from a host and editing the received printing data in a form intermediate between the form of a page description language and a printable bit image form (col. 3, lines 59-62: the page processor,

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which receives the page description language from a host via input/output module 12 “col. 3, lines 46-49”, converts the page description language to display list “26 in fig. 1” in a form of the page intermediate data “col. 3, lines 59-62”. The display list in the form page intermediate contains a plurality of strips that define the images is printed on the media sheet “col. 3, lines 59-61”. Each page strip “30 in fig. 1” includes a plane to process field 34 which manifests a parameter that denotes which color plane is being processed in accord with the various objects 36 that are present in the page strip “col. 4, lines 3-6”; and display list in the form page intermediate is accessed four times to enable the creation of four color planes for the page strips of a page “col. 4, lines 20-22”. Finally, the image processing module 24 performs rasterization action, which would be representative of bitmap form, on the respective page strips listed on the memory “IQ 42” “col. 4, lines 31-33 and col. 3, lines 55-58”. In general, the page processor 20 for editing the received printing data in a form intermediate between the form of a page description language and a printable bit image form);

an intermediate-form printing data memory (i.e., Imaging queue “IQ 42 in fig. 1” would be considered as an intermediate-form printing data memory) for storing printing data of said intermediate form (col. 4, lines 27-31: the display list in form page intermediate is stored in the image queue IQ 42 “col. 3, lines 12-13”); and

an expansion process part (i.e., the image processing module “24 in fig. 1” would be considered as an expansion process part) for expanding printing data of said intermediate form (col. 4, lines 30-33: the image processing module 24 for expanding the printing data of the intermediate by performing a rasterization action),

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wherein said editing process part for updating page state data of each page to printing data of said intermediate form edited page by page (col. 4, lines 20-26: the display list in the form of the intermediate data “26 in fig. 1” is accessed four times to enable the creation of four color planes for the page strips of a page. The plane to process field “34 in fig. 1” of each page strip for each page, which would be considered as the page state data for each page because this data relates to the information of each processing page, is updated to the intermediate data edited page by page by updating to indicate the current color plane being processed and this value controls which of the color values “40 in fig. 1” are accessed for each object in each page strip).

However, Blair does not teach the page processor 20 includes a register process part for analyzing printing data of said intermediate form edited page by page and adding page state data of each page to printing data of said intermediate form edited page by page.

Kawata teaches a register process part (i.e., band division administering component “319 in fig. 3” would be considered as a register process part) for analyzing printing data of the intermediate form edited page by page and adding page state data of each page to printing data of said intermediate form (col. 9, lines 6-15) (it is noted that after the band division administering component “319 in fig. 3” receives the inputted trapezoid data “i.e., the edited intermediate data with is edited through the components 314, 316, 317, 318 in fig. 3” from the trapezoid data generating component “318 in fig. 3” “col. 9, lines 1-4”, the component 319 divides a piece of trapezoid data covering the plural bands and then adds a band ID indicating to which band the data belongs, a bounding box of the set of the pieces of the trapezoid data divided into band units, data administering information, color information output from the drawing state storing component “313 in fig. 3” or image data output from the image processing component 312 and a

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rasterizing process ID "col. 9, lines 6-15". The adding data above would be representative of a page state data because this data relates to each processing page. In summary, the component 319 would analyze the received trapezoid data edited for each page before collecting the page state data and add the page state data to the received trapezoid data).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the page processor 20 of Blair for including a register process part for analyzing printing data of said intermediate form edited page by page and adding page state data to printing data of the intermediate form as taught by Kawata. The suggestion for modifying the page processor of Blair can be reasoned by one of ordinary skill in the art as set forth above by Kawata because the modified page processor of Blair would be more efficiency and easily incorporate with the performing of the expansion process part by analyzing the edited page intermediate data and adding the page state data to the edited page intermediate data before transmitting them to the expansion process part. In this way, the expansion process part easily knows how to process and convert the intermediate form into a rasterizing form.

As to claim 2, Blair and Kawata disclose every feature discussed in claim 1, and Kawata further teaches that a decoding process part (i.e., a phrase analyzing element 30 in fig. 1) separating printing data from the host command by command (col. 6, lines 20-24 and col. 7, lines 42-43: the phrase analyzing element 30 extracts a piece of the input data from a host "1 in fig. 1" as a token according to the syntax of the prescribed description language. Therefore, each piece of the printing data would be considered as each of the separated printing data from the host command by command), and a command process part (i.e., an intermediate data generating element 31 in fig. 1) performing preprocessing to each command from the decoding process part

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(col. 6, lines 25-30: the intermediate data generating element 31 receives and interprets the token from the phrase analyzing element 30 and then executes drawing commands and generates pieces of data that include trapezoids, in accordance with each drawing command).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the page processor 20 of Blair for including a decoding process part and a command process part in order to separate printing data from the host command by command and perform preprocessing to each command respectively as taught by Kawata. The suggestion for modifying the page processor of Blair can be reasoned by one of ordinary skill in the art as set forth above by Kawata because the modified page processor of Blair would be more efficiency by providing the decoding process part and the command process part for separating the print commands from the host and preprocessing to each command before editing the printing data of the intermediate form. In this way, the printing data of the intermediate form is easily edited after receiving each preprocessed from the command process part.

As to claim 3, Blair and Kawata disclose every feature discussed in claim 1, and Blair further teaches that the printing data of intermediate form is printing data expressed in a display list form (26 in fig. 1 and col. 3, lines 61-62: the page processor 20 converts the page description language into a display list 26. The display list 26 comprises a plurality of page strips of page intermediate data).

As to claim 4, Blair and Kawata disclose every feature discussed in claim 1, and Kawata further teaches that a readout part (i.e., a rasterizing unit "4 in fig. 1" would be considered as a readout part) for reading the page state data to control a printing operation according to the page state data added to the printing data held in the register process part (a rasterizing unit 4 for

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reading the printing data of the intermediate form “col. 6, lines 50-52”. The printing data of the intermediate form including the page state data such as a data administering information, color information, image data and a rasterizing process ID “col. 9, lines 6-15” which would help the rasterizing unit for controlling a printing operation during rasterizing the printing data of the intermediate form).

(It is noted that Blair teaches: after page processor 20 has created display list 26 for each page, each page strip 30 is ready to be rasterized by reading by the image processing module 24 and passed to a print engine for printing operation “col. 4, lines 27-35”. The image processing module 24 which converts an intermediate form of page image data to a rasterized image data that is suitable for rendering by print engine 22 “col. 3, lines 55-58”. Therefore, the printing data of intermediate form of Blair would include the page state data that for controlling the print operation. Furthermore, Kawata teaches a rasterizing unit 4 for reading the printing data of the intermediate form “col. 6, lines 50-52”. The printing data of the intermediate form including the page state data such as a data administering information, color information, image data and a rasterizing process ID “col. 9, lines 6-15” which would help the rasterizing unit for controlling a printing operation during rasterizing the printing data of the intermediate form. For example, the color page printer for printing colors in the paper “col. 6, lines 57-61” and the page state data includes color information “col. 9, lines 12-13” is controlled for printing operation by the rasterizing unit how to be suitable to the color print engine).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the printing data processor (the CPU 18) of Blair for including a readout part in order for reading the added page state data from the register process part as taught

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by Kawata. The suggestion for modifying the page processor of Blair can be reasoned by one of ordinary skill in the art as set forth above by Kawata because the modified processor 18 of Blair would be more efficiency by providing the readout part for reading the added page state data in the print data of the intermediate form. In this way, the rasterizing unit knows how to convert the printing data in the intermediate form into the rasterizing format based on the added page state data which is read by the read out part, and the rasterizing unit would easily control the printing operation based on the added page state data.

As to claim 5, Blair and Kawata disclose every feature discussed in claim 1, and Kawata further teaches the editing process part includes a page state storage area (i.e., a drawing state storing component "313 in fig. 3" would be considered as a page state storage area) to which the page state data detected by the register process part (i.e., a band division administering component "319 in fig. 3" which detects the drawing state "i.e., the page state data" from the drawing state storing component 313 such as a data administering information or color information "col. 9, lines 9-13 and please see the relationship between the component 319 and the component 313 in fig. 3") is sent page after page (it is noted that the converting unit "3 in fig. 1" or the intermediate generating element "31 in fig. 1" for converting the input data from the host and processing the printing data in form of the intermediate data from each page " col. 9, lines 24-30"), and wherein final page state of each page stored in the page state storage area is added to printing data of the intermediate form (please see figure 3 and col. 10, lines 26-32: the drawing command "i.e., the page state " , which is stored in the drawing state storing component "313 in fig. 3 and col. 8, lines 45-48", is provided to the component 312, 314, 316, 317, and finally to the band division administering component 319. Therefore, when the drawing state is

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added to the component 319, the drawing state would be considered as the final page state of each page that is added to the printing data of the intermediate form).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the page processor 20 of Blair for including a page state storage area for storing the page state data and final page state data of each page is added to the printing data of the intermediate form in the register process part as taught by Kawata. The suggestion for modifying the page processor of Blair can be reasoned by one of ordinary skill in the art as set forth above by Kawata because the modified page processor of Blair would be more efficiency and easily incorporate with the performing of the expansion process part by including a page state storage area for storing the page state data and final page state data is added to the printing data of the intermediate form. In this way, the expansion process part easily knows how to process and convert the intermediate form into a rasterizing form in each page.

As to claim 6, Blair and Kawata disclose every feature discussed in claim 1, and Kawata further teaches that the page state data added to printing data of the intermediate form is of the same intermediate form as printing data of the intermediate form (col. 9, lines 6-16: since the color information "i.e., the page state data" from the drawing state storing component 313 or image data "the page state data" from the image processing component 312 is added to the intermediate data "i.e., the trapezoid data" in the band division administering component 319, the color information or the image data would be the same intermediate form as the printing data of the intermediate form because the color information or the image data are already converted into the intermediate form under control of the token interpreting component "please see 310 in fig. 3 and col. 8, lines 32-39").

Allowable Subject Matter

5. Claim 7 is objected to as being dependent upon a rejected base claim 1, and claims 8-10 depend on claim 7 so claims 8-10 are also objected, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for objecting:

As to claim 7, which depends on claim 1, the closest prior art of Blair (US Patent No. 6,018,400) and Kawata et al. (US Patent No. 6,219,149 B1) and an updated electronic text search, taken either singly or in combination, does not teach: the expansion process part includes a plurality of ***usagewise-separated register process parts*** for respective reproduction ***modes of respective pages***, and a ***selection process part*** for selecting a usagewise-separated register process part ***suitable for the page state*** from the plurality of usagewise-separated register process parts according to ***the page state data***.

Examiner's Remarks

Vennekens (U.S. Patent No. 5,652,711) discloses a PDL data stream mainly comprises commands. The commands can be subdivided in data commands and control commands.

Shimizu (U.S. Patent No. 6,490,055 B1) discloses a printer includes an input units for inputting color PDL information, creation means for creating intermediate information for recording by analyzing color PDL which has been input.

Nakagiri (U.S. Patent No. 6,493,099) discloses a selecting means for selecting the page mode based on the information of the acquiring transformation time coefficient data and the computing transforming periods of pages.

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Ishikawa et al. (U.S. Patent No. 5,987,226) discloses the processor and others execute required processing based upon the contents of prior information, they can start processing when a file is transferred.

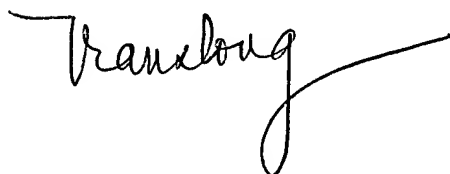
Suzuki et al. (US Patent No. 6,052,203) discloses a plurality of mode is selected based on the overlapping information on the image data.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Douglas Q. Tran whose telephone number is (703) 305-4857 or E-mail address is Douglas.tran@uspto.gov.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-4700.

Douglas Q. Tran
Feb. 21, 2003

A handwritten signature in black ink, appearing to read "Tran Douglas", with a long horizontal flourish extending to the right.